

Claims

[c1] What is claimed is:

1. A remote console for controlling power-on processes of a plurality of computers connected to a network, each of the computers comprising:
 - a basic input/output system (BIOS) for executing a power-on process of the computer;
 - an input buffer for storing input control signals;
 - an output buffer for storing output video signals; and
 - a virtual POST (power-on self test) daemon embedded in the basic input/output system for processing signals of the computer and receiving controls of the remote console, the virtual POST daemon comprising:
 - an input receiving module for receiving input control data from the remote console via the network;
 - an input detection module for detecting whether the input buffer has any input control signals and executing the input control signals;
 - a first conversion module for converting the output video signal stored in the output buffer into output video data and restoring the received input control data to the input control signal and then storing the input control signal in the input buffer; and
 - an output transferring module for transferring the output video data to the remote console via the network;
 - the remote console comprising:
 - an input device for generating the input control signal of the power-on process for the computer;
 - an output device for displaying the corresponding output video signal of the power-on process for the computer; and
 - a remote console manager for processing signals of the computer and controlling/operations of the computer, the remote console manager comprising:
 - an output receiving module for receiving the output video data from the computer via the network;
 - a second conversion module for converting the generated input control signal into the input control data and restoring the output video data to the

corresponding output video signal; and
an input transferring module for transferring the input control data to the computer via the network;
wherein the input control signal generated by the input device of the remote console is transferred to the virtual POST daemon of the computer via the network for controlling operations of the BIOS, and the virtual POST daemon transfers an output signal of the computer to the output device of the remote console via the network for displaying a power-on status of the computer.

- [c2] 2.The remote console of claim 1 wherein the input device is a keyboard.
- [c3] 3.The remote console of claim 1 wherein the input device is a pointing device.
- [c4] 4.The remote console of claim 3 wherein the pointing device is selected from a group consisting of a mouse and a trackball.
- [c5] 5.The remote console of claim 1 wherein the computer further comprises:
an operating system (OS) for controlling operations of the computer; and
a virtual OS KVM daemon installed in the OS for providing a network function,
an operation status of the computer being transferred to the remote console via the network, and for providing a command received from the remote console via the network for controlling an operation procedure of the computer;
wherein the input control signal generated by the input device of the remote console is transferred to the virtual POST daemon of the computer via the network, and the virtual POST daemon of the computer transfers the operation status of the computer to the output device of the remote console via the network.
- [c6] 6.The remote console of claim 1 wherein the network is selected from a group consisting of an Internet and a local area network (LAN).
- [c7] 7.The remote console of claim 1 wherein the computer is selected from a group consisting of a personal computer (PC), a server, and a notebook.
- [c8] 8.The remote console of claim 1 wherein the remote console is capable of executing a power-on process for the computer via the network.

[c9] 9.The remote console of claim 1 wherein the remote console is selected from a group consisting of a PC, a workstation, and a notebook.

[c10] 10.The remote console of claim 1 wherein a password is stored in the computer, when the remote console logs into the computer, the remote console has to input an identical password via the input device to execute a verification procedure.

[c11] 11.A method of using a remote console for controlling power-on processes of a plurality of computers connected to a network, the remote console comprising an input device for generating an input control signal of a power-on process for the computer, each of the computers executing the following steps:
using a basic input/output system (BIOS) for executing the power-on process of the computer;
using an input receiving module for receiving input control data from the remote console via the network;
using an input detection module for detecting whether an input buffer has any input control signals and executing the input control signals;
using a first conversion module for converting an output video signal stored in an output buffer into output video data and restoring the received input control data to the input control signal and then storing the input control signal in the input buffer; and
using an output transferring module for transferring the output video data to the remote console via the network.

[c12] 12.The method of claim 11 wherein the input device is a keyboard.

[c13] 13.The method of claim 11 wherein the input device is a pointing device.

[c14] 14.The method of claim 13 wherein the pointing device is selected from a group consisting of a mouse and a trackball.

[c15] 15.The method of claim 11 wherein the computer further comprises:
an operating system (OS) for controlling operations of the computer; and
a virtual OS KVM daemon installed in the OS for providing a network function,
an operation status of the computer being transferred to the remote console via

the network, and for providing a command received from the remote console via the network for controlling an operation procedure of the computer; wherein the input control signal generated by the input device of the remote console is transferred to the virtual POST daemon of the computer via the network, and the virtual POST daemon of the computer transfers the operation status of the computer to an output device of the remote console via the network.

- [c16] 16.The method of claim 11 wherein the network is selected from a group consisting of an Internet and a local area network (LAN).
- [c17] 17.The method of claim 11 wherein the computer is selected from a group consisting of a personal computer (PC), a server, and a notebook.
- [c18] 18.The method of claim 11 wherein the remote console is capable of executing a power-on process for the computer via the network.
- [c19] 19.The method of claim 11 wherein the remote console is selected from a group consisting of a PC, a workstation, and a notebook.
- [c20] 20.The method of claim 11 wherein a password is stored in the computer, when the remote console logs into the computer, the remote console has to input an identical password via the input device to execute a verification procedure.
- [c21] 21.A method of using a remote console for controlling power-on processes of a plurality of computers connected to a network, the remote console executing the following steps:
 - using an input device for generating an input control signal of the power-on process for the computer;
 - using an output receiving module for receiving output video data from the computer via the network;
 - using a second conversion module for converting the generated input control signal into input control data and restoring the output video data to the corresponding output video signal;
 - using an input transferring module for transferring the input control data to the computer via the network; and

using an output device for displaying the corresponding output video signal of the power-on process for the computer.

- [c22] 22.The method of claim 21 wherein the input device is a keyboard.
- [c23] 23.The method of claim 21 wherein the input device is a pointing device.
- [c24] 24.The method of claim 23 wherein the pointing device is selected from a group consisting of a mouse and a trackball.
- [c25] 25.The method of claim 21 wherein the computer further comprises:
an operating system (OS) for controlling operations of the computer; and
a virtual OS KVM daemon installed in the OS for providing a network function,
an operation status of the computer being transferred to the remote console via
the network, and for providing a command received from the remote console
via the network for controlling an operation procedure of the computer;
wherein the input control signal generated by the input device of the remote
console is transferred to the virtual POST daemon of the computer via the
network, and the virtual POST daemon of the computer transfers the operation
status of the computer to an output device of the remote console via the
network.
- [c26] 26.The method of claim 21 wherein the network is selected from a group
consisting of an Internet and a local area network (LAN).
- [c27] 27.The method of claim 21 wherein the computer is selected from a group
consisting of a personal computer (PC), a server, and a notebook.
- [c28] 28.The method of claim 21 wherein the remote console is capable of executing
a power-on process for the computer via the network.
- [c29] 29.The method of claim 21 wherein the remote console is selected from a group
consisting of a PC, a workstation, and a notebook.
- [c30] 30.The method of claim 21 wherein a password is stored in the computer, when
the remote console logs into the computer, the remote console has to input an
identical password via the input device to execute a verification procedure.

[c31] 31. A remote console for controlling a plurality of computers connected to a network, each of the computers comprising:
a basic input/output system (BIOS) for executing a power-on process of the computer;
a plurality of buffers for storing input and output signals; and
a virtual POST (power-on self test) daemon embedded in the basic input/output system for providing a network function, the input signal for controlling the power-on process of the computer being received from the remote console via the network and stored in the buffer, and the output signal stored in the buffer of the computer being transferred to the remote console via the network;
the remote console comprising:
a remote console manager for processing signals transferred from the computer and controlling operations of the computer; and
a plurality of peripheral devices for outputting the output signal transferred from the computer and generating the input signal which controls the power-on process of the computer;
wherein the input signal generated by the peripheral devices of the remote console is transferred to the virtual POST daemon of the computer via the network for controlling operations of the BIOS, and the virtual POST daemon of the computer transfers the output signal to the peripheral devices of the remote console via the network for displaying a power-on status of the computer.

[c32] 32. The remote console of claim 31 wherein the buffer comprises an input buffer for storing input control signals, and an output buffer for storing output video signals.

[c33] 33. The remote console of claim 31 wherein the peripheral devices comprise a plurality of input devices and a plurality of output devices.

[c34] 34. The remote console of claim 31 wherein the computer further comprises:
an operating system (OS) for controlling operations of the computer; and
a virtual OS KVM daemon installed in the OS for providing a network function, an operation status of the computer being transferred to the remote console via the network, and for providing a command received from the remote console

via the network for controlling an operation procedure of the computer; wherein the input control signal generated by the input device of the remote console is transferred to the virtual POST daemon of the computer via the network, and the virtual POST daemon of the computer transfers the operation status of the computer to the output device of the remote console via the network.

[c35] 35. The remote console of claim 31 wherein the remote console is capable of executing the power-on process for the computer via the network.

[c36] 36. A method of using a remote console for controlling a plurality of computers connected to a network, each of the computers comprising:
a basic input/output system (BIOS) for executing a power-on process of the computer;
a plurality of buffers for storing input and output signals; and
a virtual POST (power-on self test) daemon embedded in the basic input/output system for providing a network function, the input signal for controlling the power-on process of the computer being received from the remote console via the network and stored in the buffer, and the output signal stored in the buffer of the computer being transferred to the remote console via the network;
the remote console comprising:
a remote console manager for processing signals transferred from the computer and controlling operations of the computer; and
a plurality of peripheral devices for outputting the output signal transferred from the computer and generating the input signal which controls the power-on process of the computer;
the method comprising:
using the virtual POST daemon for transferring the output signal stored in the buffer to the remote console manager of the remote console via the network, and displaying a power-on status of the computer via the peripheral devices of the remote console; and
using the remote console manager of the remote console for transferring the input signal generated from the peripheral devices of the remote console to the virtual POST daemon of the computer, and storing the input signal in the buffer

by the virtual POST daemon so as to control the power-on process of the computer.

[c37] 37. The method of claim 36 wherein the buffer comprises an input buffer for storing input control signals, and an output buffer for storing output video signals.

[c38] 38. The method of claim 36 wherein the peripheral devices comprise a plurality of input devices and a plurality of output devices.

[c39] 39. The method of claim 36 wherein the computer further comprises: an operating system (OS) for controlling operations of the computer; and a virtual OS KVM daemon installed in the OS for providing a network function, an operation status of the computer being transferred to the remote console via the network, and for providing a command received from the remote console via the network for controlling an operation procedure of the computer; wherein the input control signal generated by the input device of the remote console is transferred to the virtual POST daemon of the computer via the network, and the virtual POST daemon of the computer transfers the operation status of the computer to the output device of the remote console via the network.

[c40] 40. The method of claim 36 wherein the remote console is capable of executing the power-on process for the computer via the network.